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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,632	07/12/2000	Billy Wesley Beyers	RCA 88,318	2121

7590 04/02/2004	**EXAMINER**
Joseph S Tripoli	WONG, ALLEN C
Patent Operation	

ART UNIT	PAPER NUMBER
2613	3

Thomson Multimedia Licensing Inc
P O Box 5312
Princeton, NJ   08543-5312

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/614,632	BEYERS ET AL.
	Examiner	Art Unit
	Allen Wong	2613

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-12_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-12_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _12 July 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 4, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Haskell (5,742,343) in view of Demos (5,852,565).

Regarding claims 1 and 7, Haskell discloses an apparatus and method for

encoding video signals (fig.2 and 19), comprising the steps of:

receiving a progressive video bitstream comprising reference frames and non-

reference frames (in fig.2, note base encoder c4140 receive "prog" or progressive video

input bitstream, and col.9, ln.24-27, note base encoder receives I and P (ie. anchor or

reference frames) and B frames (ie. non-reference frames)), each having an initial

temporal reference in accordance with an initial frame sequence structure (fig.11, note

base layer each frame has an initial temporal reference with the group of frames

structured in order IBBPBBPB...);

remapping the temporal references of the reference frames by ignoring the non-

reference frames (col.9, ln.27-30, note reference frames are reorganized or temporally

remapped, and col.9, ln.61-67, B-frames are ignored during the frame reorganization

while I and P frames are processed first because B frames, or non-reference frames,

need the I and P frames, or reference frames, since the reconstruction of the B frames

at the decoding end depend on the decoding of the two reference frames, the I and P

frames, in order to properly reconstruct the B-frames for viewing); and

encoding the base and enhancement layered bitstreams (fig.2, element c4140 is

the base layer bitstream encoder and element c4160 is the enhancement layer bistream

encoder).

Although Haskell does not specifically disclose packetizing the reference frames

with a base packet-identifier (PID) and the non-reference frames with an enhancement

PID, to provide base and enhancement transport bitstreams, respectively. However,

Demos teaches the packetization of two MPEG-2 PIDs, where one PID contains the

base layer transport bitstream and the other PID contains the enhancement layer

transport bitstream (col.9, ln.31-36). Therefore, it would have been obvious to one of

ordinary skill in the art to incorporate Demos's teaching into the method and apparatus

of Haskell for encoding in an efficient manner to produce high quality images for display

in television transmissions and broadcasting (Demos col.1, ln.66 to col.2, ln.7).

Regarding claims 4 and 10, Haskell discloses wherein said reference frames

comprise I and P frames and said non-reference frames comprise B frames (col.9,

ln.34-36, note I and P frames are used as references for obtaining the B frames or the

non-reference frames).

3.   Claims 2, 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Haskell (5,742,343) in view of Demos (5,852,565) as applied to claims 1 and 7

above, and further in view of Yim (6,337,716).

Regarding claims 2 and 8, Haskell discloses further comprising the step of extracting and decoding the base layer video bitstream (fig.2, element c4280).

Haskell is silent about the use of PID to packetize the base layer video bitstream. However, Demos teaches the packetization of the base layer video bitstream with a PID (col.9, ln.31-36). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Demos's teaching into the method and apparatus of Haskell for encoding in an efficient manner to produce high quality images for display in television transmissions and broadcasting (Demos col.1, ln.66 to col.2, ln.7).

Haskell and Demos do not specifically disclose further comprising the use of an MP@ML decoder to provide an MP@ML decoded video bitstream. However, Yim teaches the use of MP@ML decoders (col.1, ln.14-22). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Yim into the combined teachings of Haskell and Demos for obtaining the step of extracting the and decoding, with an MP@ML decoder, only packets having the base PID, to provide an MP@ML decoded video bitstream, so as to conveniently view images in the standard definition television format at different rates (Yim col.1, ln.63-67).

Regarding claims 3 and 9, Haskell discloses further comprising the step of extracting and decoding the base layer (fig.2, element c4280) and enhancement layer video bitstreams (fig.1, element c4290) and combining the base and enhancement bitstreams to provide a high quality bitstream (fig.2, note element c4330 combines the base and the enhancement layer bitstreams to get the high quality bitstream c4350).

Haskell is silent about the use of PIDs to packetize the base layer and the enhancement layer video bitstreams. However, Demos teaches the packetization of two MPEG-2 PIDs, where one PID contains the base layer transport bitstream and the other PID contains the enhancement layer transport bitstream (col.9, ln.31-36). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Demos's teaching into the method and apparatus of Haskell for encoding in an efficient manner to produce high quality images for display in television transmissions and broadcasting (Demos col.1, ln.66 to col.2, ln.7).

Haskell and Demos does not specifically disclose the use of the MP@ML decoder, to combining the base and enhancement bitstreams to provide an MP@HL decoded video bitstream. However, Yim teaches the use of MP@ML decoders and MP@HL decoders (col.1, ln.14-26). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Yim into the combined teachings of Haskell and Demos for obtaining the step of extracting and decoding, with an MP@ML decoder, packets having both the base PID and the enhancement PID, to provide the base and enhancement bitstreams, and combining said bitstreams to provide an MP@HL decoded video bitstream, so as to conveniently view images in the standard definition television format as well as viewing images in the high definition television format at different rates (Yim col.1, ln.63-67).

Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haskell (5,742,343) in view of Demos (5,852,565) as applied to claims 1 and 7 above, and further in view of Wilkinson (6,125,140).

Regarding claims 5 and 11, Haskell discloses remapping the temporal references

of the reference frames by ignoring the non-reference frames (col.9, ln.27-30, note

reference frames are reorganized or temporally remapped, and col.9, ln.61-67, B-

frames are ignored during the frame reorganization while I and P frames are processed

first because B frames, or non-reference frames, need the I and P frames, or reference

frames, since the reconstruction of the B frames at the decoding end depend on the

decoding of the two reference frames, the I and P frames, in order to properly

reconstruct the B-frames for viewing).

Although Haskell does not specifically disclose packetizing the reference frames

with a base packet-identifier (PID) and the non-reference frames with an enhancement

PID, to provide base and enhancement transport bitstreams, respectively. However,

Demos teaches the packetization of two MPEG-2 PIDs, where one PID contains the

base layer transport bitstream and the other PID contains the enhancement layer

transport bitstream (col.9, ln.31-36). Therefore, it would have been obvious to one of

ordinary skill in the art to incorporate Demos's teaching into the method and apparatus

of Haskell for encoding in an efficient manner to produce high quality images for display

in television transmissions and broadcasting (Demos col.1, ln.66 to col.2, ln.7).

Haskell and Demos are silent about wherein step (b) comprises the step of

remapping the temporal references of the reference frames so that the reference frames

are consecutively numbered. However, Wilkinson teaches the step of remapping the

temporal references of the reference frames so that the reference frames are

consecutively numbered (col.1, ln.39-54; note I0, B1, B2, P3 ... is the display order of

the frames, and after the reordering or the remapping process takes place for remapping the reference frames I0, P3 into the new ordering of frames for compression with the sequence I0, P3, B1, B2 ... , where the reference frames I0 and P3 are shown to be consecutively numbered in the new ordering of frames for compression). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Wilkinson's teaching into the combination of Haskell and Demos for reordering or remapping of the reference frames so as to efficiently encode video image frames, and to meet and adhere to the MPEG video encoding standards.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haskell (5,742,343) in view of Demos (5,852,565) as applied to claims 1 and 7 above, and further in view of Michener (6,323,909).

Regarding claims 6 and 12, Haskell discloses the encoding of the base and enhancement layered bitstreams (fig.2, element c4140 is the base layer bitstream encoder and element c4160 is the enhancement layer bistream encoder).

Haskell is silent about the use of PIDs to packetize the base layer and the enhancement layer video bitstreams. However, Demos teaches the packetization of two MPEG-2 PIDs, where one PID contains the base layer transport bitstream and the other PID contains the enhancement layer transport bitstream (col.9, ln.31-36). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Demos's teaching into the method and apparatus of Haskell for encoding in an efficient manner to produce high quality images for display in television transmissions and broadcasting (Demos col.1, ln.66 to col.2, ln.7).

Haskell and Demos do not specifically disclose wherein each PID is a service channel identifier (SCID). However, Michener teaches that a PID is a service channel identifier (col.1, ln.53-55). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Michener's teaching into the combination of Haskell and Demos for efficiently encoding and transmitting standard and high definition programming using digital satellite system and MPEG-2 so as to reduce massive infrastructure and complexity, and to reduce costs (col.1, ln.62-64 and col.2, ln.24-26).

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gonzales (US 5,231,484) disclose a motion video compression system with adaptive bit allocation and quantization.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Allen   Wong
Examiner
Art Unit 2613

AW
3/31/04